

## AGRICULTURALISTS

Agriculturalists

Agronomists

Chemists, agricultural

Economists, agricultural

Engineers, agricultural

Forestry Specialists

Conservation

Wood processing (milling, impregnating, etc.)

Wood products (lumber, turpentine, etc.)

Animal Husbandman

Products and technology, dairy

Products and technology, bone and hoof, hide, meat and poultry

Veterinarians

Biology and control of parasites (other than arthropods) of vertebrates

Disease pathology and treatment

Fungus diseases

## BACTERIOLOGISTS

Bacteriologists (including Viral and Rickettsial Diseases)

Classification of viruses, bacteria and rickettsia

Industrial bacteriology

Disinfectants and antiseptics

Infectious diseases of man, biology and control of pathogenic agents

Bacterial and rickettsial

Viral

Unknown etiology

Infectious diseases of vertebrates other than man, control of pathogens

Bacterial and rickettsial

Viral

Unknown etiology

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BACTERIOLOGISTS (Cont'd)

Infectious diseases of plants, biology and control of pathogenic agents

Bacterial

Viral

Unknown etiology

BIOLOGISTS

Biologists

Anatomy, cytology, embryology, histology, microscopy and morphology

Genetics

Microbiology

Physiology

BIOLOGICAL WARFARE SPECIALISTS

Biological Warfare Specialists

Dissemination techniques

Biologic agents (insects and other hosts)

Mechanical (plane spraying, smokes, etc.)

Water (natural and artificial systems)

Pathogenic biological agents and by-products

Protection against biological warfare

Biological (immunization, etc.)

Chemical

Physical (protective clothing, masks, etc.)

Research and development

Tactics and strategy

BOTANISTS

Botanists

Anatomy, cytology, embryology, histology, microscopy and morphology

Genetics

Physiology (growth hormones, photosynthesis, etc.)

Zymotechnology (organisms, techniques & products of fermentation processes)

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#### ENTOMOLOGISTS

Entomologists (including medically important arthropods)

Fungus diseases of arthropods

Life history and control of insects and arthropods affecting:

Construction materials

Crops, field, forest and horticultural

Man

Manufactured non-food products

Plants (unspecified)

Stored food products

Vertebrates other than man

Control and testing techniques

Insects parasitic on invertebrates including other insects

Taxonomy of arthropods (insects, ticks, mites, spiders, centipedes, etc.)

Toxicity and pathogenicity of insecticides, miticides, etc., to man

Transmission of plant and animal pathogens

#### PARASITOLOGISTS

Parasitologists

Biology and control of invertebrates parasitic on man:

Protozoa (ameba, flagellates, ciliates; malaria, sleeping sickness, etc.)

Nemathelminthes (hookworms, pinworms, trichina, filariasis, etc.)

Platyhelminthes (flukes, tapeworms, etc.)

Parasites of man not otherwise classified

Control and therapeutics

Parasite identification techniques (staining, microscopy, precipitation tests)

Transmission of parasites

#### PLANT PATHOLOGISTS and MYCOLOGISTS

Plant Pathologists and Mycologists (Plant diseases and fungi)

Biology of fungi other than bacteria:

Slime fungi - Myxomycetes

Algal fungi - Phycomycetes (downy mildews, bread molds, molds on insects, etc.)

Sac fungi - Ascomycetes (powdery mildews, blue-green molds, yeasts, etc.)

Basidium-forming fungi-basidiomycetes (rusts, smuts; fleshy and woody fungi)

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PLANT PATHOLOGISTS and MYCOLOGISTS (Cont'd)

Life history and control of fungi affecting:

Construction materials

Crops, field, forest and horticultural

Man

Manufactured non-food products

Plants (unspecified)

Stored food products

Vertebrates other than man

Control and testing techniques

Taxonomy of the fungi

Toxicity and pathogenicity of fungicides to man

Transmission of plant pathogens

ZOOLOGISTS

Zoologists

Experimental physiology of the functional systems

Circulatory

Digestive

Endocrine (Hormones)

Excretory

Muscular

Nervous and special senses

Reproductive

Respiratory

Skeletal

Skin

Genetics

MEDICAL RESEARCHERS and PRACTITIONERS

Physicians (anat., physiology, prophylaxis, therapeutics of functional systems)

Circulatory (cardiology, haematology)

Digestive (gastroenterology, nutrition and dietary, proctology)

Endocrine (endocrinology)

Muscular

Nervous and special senses excluding sight

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MEDICAL RESEARCHERS and PRACTITIONERS (Cont'd)

Physicians (cont'd)

Reproductive (embryology, gynecology, obstetrics)  
Respiratory (laryngology, rhinology, bronchoscopy)  
Skeletal excluding dentistry (osteology)  
Skin (dermatology)

Medical Specialists

Allergy  
Arctic medicine  
Aviation medicine  
Cancer  
Gerontology  
Plastic surgery  
Radioactive induced diseases and therapy  
Tropical medicine

Medical Service Specialists

Anesthesiology  
Radiology and roentgenology (X-Ray, radium therapy)

Public Health Specialists

Administration  
Epidemiology  
Food poisoning  
Industrial Hygiene  
Industrial Toxicology  
Toxicology

Sanitary or Public Health Engineers

Sewage treatment and disposal systems  
Water treatment, filtration supply systems, testing, etc.

Dentists

Immunologists and Serologists

Complement-fixation methodology

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MEDICAL RESEARCHERS and PRACTITIONERS (Cont'd)

Immunologists and Serologists (cont'd)

Immunization and vaccination

Serums and vaccines, preparation and storage

Ophthalmologists

Pharmacologists

Antibiotics (Chloromycetin, penicillin, streptomycin, sulfonamides, etc.)

Antimalarial drugs

Drugs affecting the nervous system

Drugs affecting the cardiovascular system

Drugs affecting the excretory system

Drugs affecting growth and metabolism

Drugs affecting muscle tonus

Drugs affecting the reproductive system

Drugs affecting parasites

Drugs & pharmaceuticals derived from animals, plants, chem. synthesis

Pharmaceutical chemistry

Toxicology of drugs and medicines

Psychologists and Psychiatrists

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CERAMICS and GLASS TECHNICIANS

Ceramics and glass technicians

Earthenware and porcelains

Glass - pressed, blown and flat

Structural clay products

METALLURGICAL ENGINEERS

Metallurgical engineers

Process metallurgy (extraction of metals from their ores)

Concentration (ore dressing, crushing, flotation, benefaction)

Electrometallurgy (electrolytic separation)

Fuel technology (use of fuels in metallurgical processing)

Hydrometallurgy (leaching)

Metallurgical smoke (recovery from smoke by-products)

Pyrometallurgy, ferrous and non-ferrous (smelting, roasting, sintering, etc.)

Physical metallurgy (treatment, fabrication of metals after extraction)

Foundry

Heat treatment (furnace design, construction, refractories)

Mill fabrication

Surface finishing

Thermoanalysis

Metals and alloys, metallurgy

Ferrous metals

Non-ferrous metals

Uranium, thorium and related elements

MECHANICAL ENGINEERS

Mechanical engineers

Engines, automotive (design, construction and testing)

Aircraft

Amphibious craft

Automobile, bus, truck

Diesel

Gas turbine

Gasoline

Jet

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MECHANICAL ENGINEERS (Cont'd)

Ram jet

Reciprocating

Rocket

Steam

Engines and motors, stationary (design, construction and testing)

Diesel engines, parts and accessories

Gasoline engines, parts and accessories

Gravity and spring powered motors (clocks, etc.)

Hydraulic engines and equipment

Pneumatic engines and equipment

Steam engines and equipment

Heating, refrigeration, air conditioning, plumbing

Air conditioning

Heating

Refrigeration

AERONAUTICAL ENGINEERS

Aeronautical engineers

Aerodynamics (fluid motion, air flow, wind tunnel experts., Phy.-Mech., gas, etc.)

Air navigation

Airports and airways (including aircraft carriers)

Braking systems, tires and landing equipment

Communication methods and equipment

Design and structuring (supports, covering, welding, stress, load, etc.)

Fire protection

Gliders and towed engineless craft

Helicopters (rotating wing aircraft)

Hydraulic control equipment

Instruments, engine

Instruments, (navigation and flight)

Jet assist takeoff equipment

Lighter than aircraft (balloons, dirigibles, etc.)

Parachutes and escape devices

Propellers (air screws)



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AERONAUTICAL ENGINEERS (Cont'd)

Pumps

Structure and surface composition (fabrics, wood, metal and plastic)

Supersonic engineering

Transonic engineering

Ultrasonic engineering

AUTOMOTIVE ENGINEERS

Automotive engineers (other than Aeronautical and Marine)

Amphibious vehicles (ducks, weasels, amphibious tanks, etc.)

Automobiles

Tanks and halftracks (other than amphibious)

Tractors

MARINE ENGINEERS and NAVAL ARCHITECTS

Marine Engineers and Naval Architects

Corrosion, fouling and protection (machinery, ship bottoms, etc.)

Marine engines, design, installation, etc.

Navigation and stabilization equipment

Steam turbines and steam engine auxiliaries

Submarines

Warships and auxiliary craft (battleships, destroyers, landing craft)

ORDNANCE and ARMAMENT ENGINEERS (all phases)

Ordnance and armament engineers

Ammunition, artillery, naval mounted rifles, etc.

Ammunition, small arms

Armor and penetration

Atomic bomb, design and production

Atomic bomb, fusing and detonation

Automatic weapons

Ballistics, external, internal and terminal

Bomb design and production,

Bomb fusing

Cartridge design

Demolition and detonation

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ORDNANCE and ARMAMENT ENGINEERS (Cont'd)

Explosives, chemistry

Explosives, physical properties

Fire control systems

Fuses

Fuses, automatic, proximity fuses, etc.

Guns and mounts

Mines, land

Mines, naval

Projectiles

Propellants other than explosives

Pyrotechnics

Rockets, not guided

Small arms

Underwater ordnance

Warheads

GUIDED MISSILES SPECIALISTS

Guided missiles specialists (all phases)

Airborne and underwater (including projectiles and bombs)

Control surfaces

Counter measures

Guidance systems

Propulsion engines

Propulsion fuels

Remote control

Servo mechanisms

Structure and design

Telemetry systems

Tracking, detection, interception

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ASTRONOMERS

Astronomers

Astrophysics & descriptive astronomy (Physical condition of bodies in space)  
Geodetic astronomy (time, latitude, longitude, triangulation, navigation)

CHEMICAL WARFARE SPECIALISTS

Chemical warfare specialists (all phases)

Chemical toxicants (other than biological)

Gases

Liquid contact vesicants

Radioactivated compounds

Stomach poisons

Dissemination techniques

Protection against chemical warfare agents including detection and warning

CHEMISTS

Chemists

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Biochemists

Fermentation processing in chemical production

Nutritional (food and vitamin chemistry, analysis, assay, etc.)

Physiological (cellular chem., metabolism of carbohydrates, proteins, etc.)

Industrial chemists and chemical engineers

Coal and coal products

Commercial solvents

Explosives, including atomic bomb

Fuels

Lubricants

Oils, fats, waxes and soaps

Paints, enamels, varnishes

Photographic chemicals

Pigments

Metals and their inorganic compounds

Alkali and alkaline earth metals

Aluminum and magnesium and compounds

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CHEMISTS (Cont'd)

Beryllium and compounds

Iron, cobalt, nickel and compounds

Lead, tin, antimony and compounds

Platinum, ruthenium, osmium and compounds

Precious metals and compounds

Zinc, cadmium, mercury and compounds

Zirconium and compounds

Nonmetals and their inorganic compounds excluding acids

Halogens and compounds

Inert gases

Nitrogen and compounds, ammonium, etc.

Oxygen

Phosphorus

Rare earths

Sulphur and compounds

Nuclear chemists (radio chemistry)

Analysis of radioactive material

Graphite purification

Plutonium and compounds

Radioactive elements, compounds

Radium and compounds

Redox processes

Thorium and compounds

Tracer chemistry, production, etc.

Transuranium elements

Uranium and compounds, oxides, tetrafluorides, etc.

Organic chemistry

Alcohols, aldehydes, ketones, ethers, acids and acid derivatives

Heterocyclic compounds (purines, quinolines, alkaloids)

Nonheterocyclic nitrogen compounds (nitro, diazo, amino derivatives, proteins)

Organometallic compounds

Physical chemistry

Catalysis

Chemical equilibria (homo- and hetero-systems, phase rule, etc.)

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#### CHEMISTS (Cont'd)

Chemical kinetics and mechanisms of chemical reactions  
Colloids and surface phenomena  
Crystals  
Electrochemistry (batteries, electroplating, etc.)  
High pressure reactions  
High temperature reactions  
Photochemistry (effect of light on chemical reactions)  
Polymers and polymerization  
Separations excluding radioactive isotopes  
Solutions (aqueous, electronic forces, ionic equilibria, viscosity)  
Theoretical chemistry (quantum theory, applications, etc.)  
Thermochemistry (effect of heat on chemical reactions)

#### GEOGRAPHERS

##### Geographer

Cartography  
Commercial and economic geography (dist. of products, demand, exchange)  
Exploration  
Geopolitics (origin, evolution and distribution of nat'l polit. doctrines)  
Human (political) Geography (dist. of human races)  
Topography, coastal & inland features (configurations, trans., towns, etc.)

#### GEOLOGISTS

##### Geologists

Economic geologist (detection, estimation)  
Coal  
Geophysical prospecting  
Metals and non-metals (other than uranium, thorium & related compounds)  
Petroleum and natural gas  
Uranium and related compounds  
Geophysicists (dynamics of the earth and dynamic geology)  
Seismology (earthquakes, storms, etc.)  
Terrestrial magnetism  
Ground water geology

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GEOLOGISTS (Cont'd)

Mineralogists (descriptive and analytical)

Mining geologists and engineers

Surface and underground plants

Systems and methods of working mines (surface and underground)

Petroleum and natural gas engineers

Drilling equipment and methods

Gas flow control

Oil field hydrology (exclusion of water from wells)

Pneumatic pumping and mechanical pumping

Refining techniques

Structural geology - Geotectonics (manner earth materials put together)

MATHEMATICIANS

Mathematicians

Ballistics

Biometrics

Cryptoanalysis

Electronic computers

METEOROLOGISTS

Meteorologists (Science of the atmosphere) all phases

Climatology

Composition of the atmosphere and stratosphere

Physical and dynamic meteorology

Weather forecasting

PHYSICISTS

Physicists

Biophysicists

Electrical engineers

Communications

Generators (dynamos and auxiliaries)

Motors and electric power driven machinery

Power distribution

Telegraphy

Telephony

PHYSICISTS (Cont'd)

Electricity (experimental) and Magnetism

Dielectrics and capacitance

Ionization

Magnetism (materials; induced, etc.)

Piezoelectricity

Electronics Specialists

Frequency modulation and low and high frequency phenomena

Infrared

Ionization, photoelectric thermal

Remote control and guidance systems

Servomechanisms

Sound reproduction and recording

Telemetering

Transmitting and receiving instruments and components

Radar

Radio

Sonar

Television

Vacuum tubes & gaseous tubes (diodes, multigrid tubes, amplifiers, rectifiers)

Waves, microwaves, etc.

Heat

High and low temperature effects and phenomena

Temperature measurement and instruments

Thermodynamics (conduction, convection, radiation)

Light

Photography

Polarized light

Optics and propagation of light

Spectroscopy, wave length and analysis measurements

Mechanics and weights and measures

Fluids, gases and liquids (statics and dynamics)

Solids (gases and dynamics)

Nuclear physicists

Cosmic rays

Crystallography

Detection & measurement instruments, radioactivity

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PHYSICISTS (Cont'd)

Nuclear Physicists (cont'd)

Electron ballistics

Particles (alpha, beta, deuterons, mesons, neutrons, protons)

Theoretical nuclear physics

Nuclear engineers

Atomic bomb

Design, construction and maintenance

Fission products

Generators of high velocity particles

Heat transfer

Isotopes, separation identification and production (magnetic, thermodiffusion)

Pile operation

Radiation shielding for health protection

Sound

Acoustics

Sound waves

Supersonics

Ultrasonics

Underwater sound



TAB

C

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Approved For Release 2002/09/03 : CIA-RDP78-04913A000100010032-9 <sup>TAB C</sup>

Estimate of Unbudgeted Expenses Required to Produce Soviet Men of Science

1. It is estimated that the production of Soviet Men of Science will require the expenditure of \$27,071 in vouchered funds as follows:

a. Personnel

2 clerks, GS-5, @ \$3100 per annum	\$ 6,200.00
4 clerks, GS-4, @ 2875 per annum	<u>11,500.00</u>
Total	\$ <u>17,700.00</u>

b. Printing (500 copies)

composition, lock-up, make-ready	8,772.00
production, paper, running, binding	<u>599.00</u>
(each additional hundred copies - \$120.00) Total	\$ <u>9,371.00</u>

Grand Total \$27,071.00

2. Printing costs in b., above, are as stated by [ ] 25X1A5A1  
Washington printer, according to specification set forth in Tab B. The usual  
10% profit has not been included. It is believed that the quotation of the  
[ ] at competitive rates less profit is a good estimate of the cost  
to the Government Printing Office which will probably job out the work.

3. No expenses other than those outlined in paragraph 1 are foreseen.  
Equipment in use in the Biographic Register and supplies stocked by CIA  
should be sufficient for the receipt and preparation of data.

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